REMARKS

The specification has been amended to clarify the same. The formula at the top of page 29 has been amended to more clearly illustrate the grafting of 2-methyl-1,5-hexadiene onto PVC. The prior formula improperly contained an extra methylene group within the pendant chain derived from the 2-methyl-1,5-hexadiene. It is respectfully submitted that no new matter has been added.

Claims 12-16 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 12 has been amended to state that the at least one non-conjugated diene has a total from 4 to about 18 carbon atoms and thereby clarify the claimed diene. Claim 13 has been amended to state that the constituent R^8 can be 0 (absent), or an alkylene having from 1 to about 2 carbon atoms.

Claim 15 has been amended to state that the oligomer has from 2 to about 20 repeat groups, as the Examiner correctly states that an oligomer has at least two units by nature. It is respectfully submitted that the 35 U.S.C. § 112 rejections have been overcome and a notice of the same is earnestly solicited.

New claims 54-60 have been added to further define the present invention. Support for the claims can be found in the application on page 25, line 15 through page 30, line 13.

Claims 12, 15 and 16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by either Thame et al. "Graft Modification of Polyvinyl Chloride and Related Reactions", Journal of Polymer Science: Part A-1 Volume 10 pages 2507-2525 (1972) or Abbas et al. Thermal Stability of Graft Modifications of PVC and Related Materials", Journal of Polymer Science: Polymer Chemistry Edition, Volume 13, pages 59-68 (1975). The Examiner states that the Thame and Abbas references disclosed a grafting of butadiene on polyvinyl chlorides utilizing a Lewis acid catalyst or a cobalt catalyst.

The cited references cannot teach or suggest the present invention. Independent claim 12 has been amended to state that the grafted diene is a non-conjugated diene having a total of 4 to about 18 carbon atoms. Support for this amendment can be found in the Application on page 25, lines 15 through page 26, line 10. New claim 54 states that the claimed repeat unit is derived from a non-conjugated

diene. The general formula (XIV) for the preferred dienes of the present invention is shown on page 26 and illustrates that the preferred non-conjugated dienes have double bonds at the terminal ends thereof. As illustrated by the examples on pages 29-30, 2-methyl-1,5 hexadiene, a non-conjugated diene is preferred. Both references cited by the Examiner, i.e., the Thame and Abbas references can only teach reaction of poly(vinyl chloride) with conjugated dienes including butadiene.

It has been documented in the literature, see "Cationic Polymerization of Olefins: A Critical Inventory" by Dr. Joseph P. Kennedy (also an inventor of the present invention) Copyright © 1975 by John Wiley & Sons, Inc., pages 154-164 that conjugated dienes including butadiene can be polymerized utilizing Friedel Crafts acids. Unfortunately, the reaction products are crosslinked and the balance of the double bonds disappeared, see page 155. The loss of unsaturation was explained by cationic cyclization.

Advantageously, the poly(vinyl chloride)-g-non-conjugated dienes claimed by the present invention have one or more repeat groups of the graft pendant from the poly(vinyl chloride) polymer chain which are terminated with an unsaturated end group, see Example on page 29, line 16 through page 30, line 7. The unsaturated end groups can be reacted as further explained in the present invention to convert the same to other functional groups such as hydroxyl groups, epoxy groups, etc. which can be utilized as compatibilizing agents.

Claims 12-16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Esso, Great Britain Patent No. 174323. The Examiner states that Esso discloses a process wherein it would have been obvious to one of ordinary skill in the art to react a poly(vinyl chloride) and diene in a process of Esso.

The Esso reference is no more pertinent to the claims of the present invention than the prior cited references. The Esso reference can only teach or suggest utilizing conjugated dienes such as the mentioned butadiene and isoprene and not the non-conjugated dienes as claimed in the present invention.

The cited references cannot teach or suggest the claimed poly(vinyl chloride)-g-non-conjugated diene compositions claimed by the present invention.

It is respectfully submitted that the claims are in condition for allowance and a notice of such is earnestly solicited.

Respectfully submitted,

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